

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently Amended): A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) mixing a sample of test plasma with ~~[[PS-]]~~ protein S deficient plasma, recombinant tissue factor (~~TF~~), phospholipid (~~PL~~), calcium ion and activated protein C (~~APC~~) and measuring ~~the~~ a clotting time of the sample of test plasma; and

(b) comparing the measurement in (a) to a standard curve derived from ~~the~~ clotting times of plasma samples having a range of known protein S activities.

Claim 2 (Currently Amended): ~~A~~ The method of claim 1 for measuring protein S activity in a plasma sample, comprising the steps of:

(a) ~~wherein the preparing a standard curve is prepared by mixing each of the plasma samples having a the range of known protein S activities with [[PS-]] protein S deficient plasma, recombinant tissue factor (TF), phospholipid (PL) and activated protein C (APC), measuring the clotting times and plotting each of the clotting times vs. versus each of the known protein S activity activities, respectively[[:]].~~

~~(b) mixing a sample of test plasma with PS-deficient plasma, TF, PL, calcium and APC and measuring the clotting time of the plasma sample; and~~

~~(c) comparing the measurement in (b) to the standard curve prepared in (a).~~

Claim 3 (Currently Amended): A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) mixing a sample of test plasma with ~~[[PS-]]~~ protein S deficient plasma, recombinant tissue factor (TF), phospholipid (PL), calcium ion and ~~an~~ a protein C activator ~~of Protein C~~ (PCA) and measuring ~~the~~ a clotting time of the sample of test plasma; and

(b) comparing the measurement in (a) to a standard curve derived from ~~the~~ clotting times of plasma samples having a range of known protein S activities.

Claim 4 (Currently Amended): ~~A~~ The method of claim 3 for measuring protein S activity in a plasma sample, comprising the steps of:

(a) wherein the ~~preparing~~ a standard curve is prepared by mixing each of the plasma samples having a the range of known protein S activities with ~~[[PS-]]~~ protein S deficient plasma, recombinant tissue factor (TF), phospholipid (PL), calcium ion and an activator ~~for Protein S~~ of protein C (PCA), measuring the clotting times, and plotting each of the clotting times ~~vs.~~ versus each of the known protein S activity activities, respectively~~[[;]]~~ .

(b) ~~mixing a sample of test plasma with PS deficient plasma, TF, PL, and a PCA and measuring the clotting time of the plasma sample; and~~

(c) ~~comparing the measurement in (b) to the standard curve prepared in (a).~~

Claim 5 (Cancelled)

Claim 6 (Currently Amended): The method of ~~any one of claims 1-4,~~ claim 1 or claim 3, wherein the recombinant ~~TF~~ tissue factor is rabbit ~~TF~~ tissue factor.

Claim 7 (Currently Amended): The method of ~~any one of claims 1-4,~~ claim 1 or claim 3, wherein the ~~TF~~ recombinant tissue factor is purified from mammalian cells.

Claim 8 (Currently Amended): The method of ~~any one of claims 1-4,~~ claim 6, wherein the ~~PL~~ phospholipid is synthetic.

Claim 9 (Currently Amended): The method of ~~any one of claims 1-4~~, claim 1 or claim 3, wherein the ~~PL~~ phospholipid comprises 1,2-dioleoyl-sn-glycero-3-phosphocholine (PC), 1,2-dioleoyl-sn-glycero-3-phospho-L-serine (PS), and 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (PE).

Claim 10 (Currently Amended): The method of ~~any one of claims 1-4~~, claim 9, wherein the molar ratio of PC:PS:PE is about 3 to about 4 to about 5.

Claim 11 (Currently Amended): The method of claim 1 ~~or 2~~, wherein the activated protein C ~~was~~ has been activated by thrombin prior to the mixing step ~~assay by thrombin~~.

Claim 12 (Currently Amended): The method of claim 1 ~~or 2~~, wherein the activated protein C ~~was~~ has been activated by snake venom prior to the mixing step ~~assay by snake venom~~.

Claim 13 (Currently Amended): The method of claim 1 ~~or 2~~, wherein the activated protein C ~~was derived from~~ comprises recombinant Protein-protein C.

Claim 14 (Currently Amended): The method of claim 1 ~~or 2~~, wherein one or more of the ~~[[PS-]]~~ protein S deficient plasma, ~~TF~~ recombinant tissue factor and ~~APC~~ activated protein C ~~are~~ is derived from a mammalian source selected from the group consisting of a cow, a pig, and a rabbit.

Claim 15 (Currently Amended): The method of ~~any one of claims 1-4~~, claim 1 wherein one or more of the ~~[[PS-]]~~ protein S deficient plasma, ~~TF~~ recombinant tissue factor and ~~APC~~ activated protein C ~~are~~ is derived from a human.

Claim 16 (Cancelled).

Claim 17 (Cancelled).

Claim 18 (Cancelled).

Claim 19 (Cancelled).

Claim 20 (Currently Amended): The method of ~~any one of claims 1-4~~, claim 1 or claim 3 ~~whereas~~ wherein the measuring step is chromogenic.

Claim 21 (Currently Amended): The method of ~~any one of claims 1-4~~, claim 1 or claim 3 ~~whereas~~ wherein the measuring step is spectrophotometric.

Claim 22 (Cancelled).

Claim 23 (Currently amended): A kit for measuring the functional activity of protein S (~~PS~~) in a plasma sample, said kit comprising one or more containers containing ~~[[PS-]]~~ protein S deficient plasma, tissue factor (~~TF~~), phospholipid (~~PL~~), calcium ion ~~and/or~~ and activated ~~Protein~~ protein C (~~APC~~).

Claim 24 (Currently Amended): A kit for measuring the functional activity of protein S (~~PS~~) in a plasma sample, said kit comprising one or more containers containing ~~[[PS-]]~~ protein S deficient plasma, tissue factor (~~TF~~), synthetic phospholipid (~~PL~~), calcium ion ~~and/or~~ and protein C activator (~~PCA~~).

Claim ~~28~~ 25 (Currently Amended): The kit of claim 23 or claim 24, further comprising calibration plasma comprising about 100% protein S activity for preparing a standard curve.

**[CLIENT: PLEASE CONFIRM THAT “ACTIVITY” IS WHAT THIS CLAIM IS MEANT TO RECITE]**

Claim ~~25~~ 26 (Currently Amended): The kit of claim 23 or claim 24, further comprising normal control plasma comprising between about 40-50% protein S activity. **[CLIENT: PLEASE CONFIRM THAT “ACTIVITY” IS WHAT THIS CLAIM IS MEANT TO RECITE]**

Claim 27 (New): The kit of claim 23 wherein the phospholipid comprises a synthetic phospholipid.

Claim 28 (New): The kit of claim 23 wherein the tissue factor comprises a recombinant tissue factor.

Claim 29 (New): The kit of claim 24 wherein the tissue factor comprises a recombinant tissue factor.

Claim 30 (New): A kit for measuring the functional activity of protein S in a plasma sample, said kit comprising one or more containers containing protein S deficient plasma, recombinant tissue factor, phospholipid, calcium ion and a protein C activator.

Claim 31 (New): The kit of claim 30 further comprising calibration plasma comprising about 100% protein S activity for preparing a standard curve. **[PLEASE CONFIRM THAT “ACTIVITY” IS WHAT THIS CLAIM IS MEANT TO RECITE]**

Claim 32 (New): The kit of claim 30 further comprising normal control plasma comprising between about 40-50% protein S activity. **[PLEASE CONFIRM THAT “ACTIVITY” IS WHAT THIS CLAIM IS MEANT TO RECITE]**

Claim 33 (New): A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) mixing a sample of test plasma with protein S deficient plasma, tissue factor, synthetic phospholipid, calcium ion and activated protein C and measuring a clotting time of the sample of test plasma; and

(b) comparing the measurement in (a) to a standard curve derived from clotting times of plasma samples having a range of known protein S activities.

Claim 34 (New): The method of claim 33 wherein the standard curve is prepared by mixing each of the plasma samples having the range of known protein S activities with protein S deficient plasma, tissue factor, synthetic phospholipid and activated protein C, measuring the clotting times, and plotting each of the clotting times vs. each of the known protein S activities, respectively.

Claim 35 (New): The method of claim 33 wherein the tissue factor is recombinant tissue factor.

Claim 36 (New): The method of claim 35 wherein the recombinant tissue factor is rabbit recombinant tissue factor.

Claim 37 (New): The method of claim 33 wherein the tissue factor is purified from mammalian cells.

Claim 38 (New): The method of claim 33 wherein the synthetic phospholipid comprises 1,2-dioleoyl-sn-glycero-3-phosphocholine (PC), 1,2-dioleoyl-sn-glycero-3-phospho-L-serine (PS), and 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (PE).

Claim 39 (New): The method of claim 38 wherein the molar ratio of PC:PS:PE is about 3 to about 4 to about 5.

Claim 40 (New): The method of claim 33 wherein the activated protein C has been activated by thrombin prior to the mixing step.

Claim 41 (New): The method of claim 33 wherein the activated protein C has been activated by snake venom prior to the mixing step.

Claim 42 (New): The method of claim 33 wherein the activated protein C comprises a recombinant protein C.

Claim 43 (New): The method of claim 33 wherein one or more of the protein S deficient plasma, tissue factor and activated protein C is derived from a mammalian source selected from the group consisting of a cow, a pig, and a rabbit.

Claim 44 (New): The method of claim 33 wherein one or more of the protein S deficient plasma, tissue factor and activated protein C is derived from a human.

Claim 45 (New): The method of claim 33 wherein the measuring step is chromogenic.

Claim 46 (New): The method of claim 33 wherein the measuring step is spectrophotometric.

Claim 47 (New): A method for measuring protein S activity in a plasma sample, comprising the steps of:

(a) mixing a sample of test plasma with protein S deficient plasma, tissue factor, synthetic phospholipid, calcium ion and protein C activator, and measuring a clotting time of the sample of test plasma; and

(b) comparing the measurement in (a) to a standard curve derived from clotting times of plasma samples having a range of known protein S activities.

Claim 48 (New): The method of claim 47 wherein the standard curve is prepared by mixing each of the plasma samples having the range of known protein S activities with protein S deficient plasma, tissue factor, a synthetic phospholipid, calcium ion and a protein C activator, measuring the clotting times, and plotting each of the clotting times versus each of the known protein S activities, respectively.

Claim 49 (New): The method of claim 47 wherein the tissue factor comprises a recombinant tissue factor.

Claim 50 (New): The method of claim 47 wherein the tissue factor is purified from mammalian cells.

Claim 51 (New): The method of claim 47 wherein one or more of the protein S deficient plasma, tissue factor and activator of protein C is derived from a human.